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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,602	09/17/2001	Petri Ahonen	324-010512-US(PAR)	8277

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PERMAN & GREEN
425 POST ROAD
FAIRFIELD, CT 06824

EXAMINER	
VO, HUYEN X	

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/954,602	AHONEN, PETRI	
	Examiner	Art Unit	
	Huyen X. Vo	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/17/2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless – (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 6-10, 12, 17-21, 23-24, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Wood et al. (US 6092230).

3. Regarding claims 1, 12, 23, and 24, Wood et al. disclose a method of processing a speech frame in a radio system, a radio system, a mobile station in a radio system, and a network of radio system, comprising: channel-decoding a speech frame having propagated over a radio path (*Channel decoder 202 in figure 2*); if the speech frame is free of defects on the basis of the channel-decoding, it is inferred from the value of at least one speech parameter in the channel-decoded speech frame whether the speech frame contains speech that is decodable by means of a speech decoder (*elements 205 and 207 in figure 2 or referring to the operation of figure 4. Channel decoder 202 determines whether the received frame is in error or not by CRC mechanism 402. Upon detecting frames in error, the system performs error concealment before forwarding to speech decoder 207*), and if, according to the inference, the speech frame does contain speech that is decodable by means of a speech decoder, the speech frame is decoded by means of a speech decoder (*Speech decoder 207 in figures 2 and 4. In order to*

conserve power for small communication device, the transmitter side encodes and transmits only speech signal (col. 3, lines 37-45). Hence, the receiver side receives speech signal with "bank" intervals between speech words), and if, according to the inference, the speech frame does not contain speech that would be decodable by means of a speech decoder, then the speech frame is not decoded (*col. 3, line 37 to col. 4, line 20, particularly col. 4, lines 9-11, speech decoder decodes the "corresponding speech". The transmitter side encodes and transmits only speech portion of the signal. The receiver side identifies which portion of the received signal is speech and silence after channel decoded. Silence portions are substituted with comfort noise, while speech decoder 207 decodes "corresponding speech" portions identified. Silence portions and decoded speech portions are combined to produce a complete speech signal. Comfort noise is not decoded*).

4. Regarding claims 6-10, 17-21, and 29, Wood et al. further disclose that the symbols in the speech frame that are protected by channel coding are also used in the inference (*col. 5, lines 27-45, system error count (SEC) calculated based on received signal*) and the inference is performed by utilizing probability calculation (*col. 5, line 56 to col. 6, line 60, system error rate (SER). Also well-known Viterbi algorithm performs probability calculation*), wherein in the inference the probability of the value of at least one speech parameter is calculated (*col. 5, lines 27-45, system error count (SEC) calculated based on received signal*), the probability of change in the value of at least one speech parameter is calculated (*col. 7, lines 1-40, frame erasure*), and a threshold

value has been defined for the probability of change in the value of a parameter during a given number of speech frames (*col. 6, line 51 to col. 7, line 40*), and wherein the speech frame is examined to determined a value for the at least one speech parameter in the channel decoded speech frame (*CRC or SEC or SER are all calculated from received frames of signal*).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (US 6092230) in view of Official Notice.

7. Regarding claims 25-28, Wood et al. fail to specifically disclose subject matters claimed in claims 1, 12, and 23-24, further comprises a terrestrial trunked radio system. However, examiner takes official notice that a terrestrial trunked radio system is a well-known communication architecture system in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include the system/method of claims 1, 12, and/or 23-24 in a terrestrial trunked radio system in order to enhance communications.

8. Claims 2-5 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (US 6092230), and further in view of Dunlop et al. (incorporated by reference).

9. Regarding claims 2-3 and 13-14, Wood et al. fail to specifically disclose that the speech frame is encrypted, whereby decryption of the speech frame is performed in the method and decrypting the speech frame after the channel-decoding, prior to the inference. However, Dunlop et al. teach that the speech frame is encrypted, whereby decryption of the speech frame is performed in the method (*figure 7.4 page 263*) and decrypting the speech frame after the channel decoding, prior to the inference (*figures 7.2 and 7.4 on pages 261 and 263*).

Since Wood et al. and Dunlop et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Wood et al. by incorporating the teaching of Dunlop et al. in order to enhance communication security.

10. Regarding claims 4-5 and 15-16, Wood et al. further disclose that that according to the inference, the speech frame does not contain speech that would be decodable by means of a speech decoder, a bad frame indication is sent to the speech decoder (*col. 6, lines 1-24 or output of element 406 of figure 4, the BFI is used to correct the corrupted frame for the decoder*), and wherein if, according to the inference, the speech

frame does not contain speech that would be decodable by means of a speech decoder, a homing sequence is sent to the speech decoder (*that is muting the frame or zero out the frame, col. 7, lines 1-40*).

11. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (US 6092230) in view of Lagerqvist et al. (US 5502714).

12. Regarding claims 11 and 22, Wood et al. fail to specifically disclose that if the probability of change is lower than the threshold value, it is inferred that the speech frame does not contain speech that would be decodable by means of a speech decoder. However, Lagerqvist et al. teach that if the probability of change is lower than the threshold value, it is inferred that the speech frame does not contain speech that would be decodable by means of a speech decoder (*col. 6, lines 24-67*).

Since Wood et al. and Lagerqvist et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Wood et al. by incorporating the teaching of Lagerqvist et al. in order to detect speech/silence portions of the received signal so that to signal to speech decoder to decode only speech portion of the signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HXV 2/27/2006

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RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER